ture. The lad assumed a stiff, rigid position to protect the affected musculature. Paresis, with atrophy of some muscles, was noted, but electric examination produced such intense pain that it had to be omitted. There was an abnormal condition of tension in the affected muscles, and on palpation these muscles felt hard and sinewy. The mucous membranes were reddened, and the patient complained of a burning sensation in the mouth and throat, made worse by attempts at swallowing. Swelling of the cubital and cervical glands Oppenheim considers secondary. Myositis ossificans is excluded on account of the absence of areas of ossification and the involvement of the mucous membranes. Trichinosis is excluded by the absence of gastro-intestinal involvement. The second case was a fifty-year-old gymnasium instructor, who immediately after a "Kneipp cure" developed a stomatitis, angina, marked edema of skin, and intense pain throughout the muscular system. Ulceration of the affected skin areas occurred, attacks of fever and bronchitis developed, and the patient showed signs of convalescence, but a rapid pulse and other symptoms of cardiac failure developed, from which he finally died. Whether the heart disease was due to the general muscular involvement or was a result of exhaustion, intoxication and increased temperature, Oppenheim was unable to decide. Microscopic examination of some of the diseased muscle of the first case showed a cellular infiltration of the muscle tissue. The perimysium was thickened and less marked changes were present in the muscle fibrils. These latter were for the greater part atrophied and at times completely destroyed.
McCARTHY.

231. UEBER DIE AUTOCHTHONE HIRNSINUSTHROMBOSE (Concerning the Autochthonous Thrombosis of the Cerebral Sinuses). G. v. Voss (Deutsche Zeitschrift für Nervenheilkunde, Vol. 15, Nos. 3 and 4, p. 297).

Sinus thrombosis is not easily diagnosticated. Voss reports nine cases, and in eight of these the correct diagnosis was not made. The symptom-complex of sinus thrombosis resembles most closely that of acute leptomeningitis. Both diseases usually begin acutely, and headache is the most prominent symptom in both; disturbance of consciousness increasing quickly or gradually to coma; single, and later general, twitchings, tonic and clonic convulsions, paralyses, vomiting, vertigo, disturbances of the pupil, are common symptoms of both affections. Abnormalities of pulse and temperature, rigidity of the neck, pronounced hyperesthesia of the skin and muscles, and disturbances of the ocular muscles, usually occur in meningitis. Disturbance of temperature rarely occurs in sinus thrombosis, the pulse usually remains normal, rigidity of the neck is exceptional, and general hyperesthesia in muscles and skin has not been observed. Local signs of congestion (fullness of the veins of the face, nasal hemorrhage) are sometimes pronounced in thrombosis and are always absent in meningitis. Cachexia of long duration, chlorosis and anemia suggest thrombosis; whereas the presence of tuberculosis elsewhere in the body suggests meningitis. The differential diagnostic value of choked disk is uncertain. Localized disturbance of sensation (pain, hyperesthesia, anesthesia) occurs in thrombosis and not in meningitis.

The diagnosis between sinus thrombosis and cerebral tumor is also difficult. Slow development of the symptoms occurs in tumor; rapid development usually in sinus thrombosis. Distinct focal symptoms, disturbance of ocular muscles, nystagmus, paralysis, slowing of the pulse, tumor in other regions, would favor more the diagnosis of cerebral tumor; intense cachexia of long duration, anemia and chlorosis would favor thrombosis.

Sinus thrombosis resembles clinically other disturbances in the vascular system, encephalitis, cerebral abscess, etc. Obstinate and violent headache in young anemic or chlorotic women should arouse a suspicion of sinus thrombosis. Changes in the eye ground resulting from congestion of the central vein of the retina or the cavernous sinus make the diagnosis of sinus thrombosis easier. Cachexia, anemia or chlorosis of long duration with suddenly developed headache and other cerebral symptoms, should arouse a suspicion of sinus thrombosis. Local congestion, limited disturbance of sensation, anomalies of movement (twitchings, convulsions, chorea) without changes in the temperature or pulse, render the diagnosis of sinus thrombosis probable. SPILLER.

232 UEBER AFFECTIONEN DER CAUDA EQUINA (Concerning Affections of the Cauda Equina). W. v. Bechterew (Deutsche Zeitschrift für Nervenheilkunde, Vol. 15, Nos. 3 and 4, p. 222).

Cases of disease of the cauda equina with necropsy are not very numerous. v. Bechterew reports a case in which a tumor developed in the left testicle, and was not removed until metastasis had occurred in the retroperitoneal region. The metastatic tumor penetrated the vertebral column, and caused pain by compression of the nerves. The vertebral column, already weakened by the ingrowth of the tumor, fractured during chloroform narcosis, and compressed the cauda equina in such a way that complete paralysis of the lower limbs was observed immediately after recovery from the narcosis. The symptoms in the case were anesthesia of the buttocks, the posterior part of the thigh, leg and foot, of the anterior surface of the leg, of the perineum, anus and penis; hypesthesia on the anterior surface of the thigh; paralysis of the gluteal muscles, of the muscles of the legs and flexors of the lower limbs; paresis of the extensors and adductors of both thighs; paralysis of the detrusor muscle and rectum; hyperesthesia of the scar in the scrotum and of the lower part of the abdomen; occasionally convulsive movements in the abdominal muscles. Paralysis of the sphincters was not very evident, but on the contrary paralysis of the detrusor vesicæ muscle existed. Cases of disease of the cauda equina with so extensive paralysis of sensation and motility, and with muscular atrophy, with relative integrity of the sphincters, have not been published, according to v. Bechterew. The fracture of the weakened vertebræ during narcosis was of much importance. SPILLER.

THERAPY.

233. THE PHYSIOLOGICAL ACTION OF THE ALKALOIDS DERIVED FROM ANHALONIUM LEWINII. W. E. Dixon (Journal of Physiology, 25, 1899, p. 69).

This drug, known for a long time to the Mexican, was first brought into prominence in 1888 by Lewin, for whom it was named. It first attracted attention by reason of its vision-producing properties, the which are attested to by numerous observers. Dixon here undertakes a careful study of the four alkaloids isolated by Heffter in 1896, anhalonnine, anhalonidine, lophophorine and mezcaline. These have been isolated and show close chemical affinities; anhalonnine and anhalonidine are isomeric and the others are closely related. The action of the drug is slightly complex on acount of the four alkaloids. There is an increase in salivary secretions, vomiting and diarrhea are